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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/790,858

03/03/2004

Toshitaka Tatsunari

60188-791

3092

7590

10/19/2004

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EXAMINER

LE, THAO P

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/790,858	Applicant(s) TATSUNARI, TOSHITAKA	
	Examiner Thao P. Le	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/3/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledge is made of applicants' claim for foreign priority base on an application 2003-074731 filed in Japan on 03/19/03.

Claim Objection

2. Claims 3, 5, 10, 13, 14 are objected to under 37 CFR 1.75(c) as being in improper form because each claim depends on multiple independent/dependent claims. Accordingly, the claims 3, 5, 10, 13, 14 have not been further treated on the merits.
Claim 4 depends on claim 3, therefore, claim 4 is objected and has not been further treated on the merits.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 7, are rejected under 35 USC 102 (a) as being anticipated by Takumi, Japan Application No. 2001257532

Regarding claims 1 and 7, Takumi discloses a semiconductor device and method of making the semiconductor device comprising:

A first hydrogen barrier film 8 formed over a substrate;

A capacitive lower electrode 7 formed on the first hydrogen barrier film;

A first insulating film 15 formed on the first hydrogen barrier film to cover a side of the capacitive lower electrode and have the upper surface of the capacitive lower electrode exposed therefrom;

A capacitive insulating film 9 made of an insulating metal oxide and formed across the boundary between the lower electrode and the first insulating film;

A capacitive upper electrode 10 formed on the insulating film;

A second insulating film 15E formed on the first insulating film to cover the capacitive insulating film and the capacitive upper electrode and having a sloped portion at a position corresponding to an edge of the capacitive upper electrode; and

A second hydrogen barrier film 11 formed on the second insulating film.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 6, 8, 9, 11, 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Takumi, Japan Application No. 2001257532

Regarding claims 2 and 11, Takumi discloses a semiconductor device and method of making the semiconductor device comprising:

A first hydrogen barrier film 8 formed over a substrate;

A capacitive lower electrode 7 formed on the first hydrogen barrier film;

A first insulating film 15 formed on the first hydrogen barrier film to cover a side of the capacitive lower electrode and have the upper surface of the capacitive lower electrode exposed therefrom;

A capacitive insulating film 9 made of an insulating metal oxide and formed across the boundary between the lower electrode and the first insulating film;

A capacitive upper electrode 10 formed on the insulating film;

A second insulating film 15E formed on the first insulating film to cover the capacitive insulating film and the capacitive upper electrode and having a sloped portion at a position corresponding to an edge of the capacitive upper electrode; and

A second hydrogen barrier film 11 formed on the second insulating film.

Still regarding claims 2 and 11, Takumi fails to disclose a third insulating film made of a different material from that of the second insulating film, formed to cover the second insulating film and rounded by reflowing in a portion corresponding to an edge of the capacitive upper electrode. It would have been obvious to one having ordinary skill in the art to form a third insulating film on the second insulating film since it has been held that mere duplication the essential working parts of a device without changing functions, manners etc... of the device involves only routine skill in the art.

7. Regarding claims 6, 8, 9, 12, it is well known in the art that the insulating film could be formed by many different techniques and materials, those materials carry out similar function as the insulating film, including with an ozone CVD process and made of an undoped silicon oxide film or a silicon oxide film doped with at least one of boron or phosphorus and the sloped portion is formed by performing sputtering with inert ions.

8. References cited in PTO-982 disclose a semiconductor device and method of forming the semiconductor device similar to what recited in claims 1, 2, 7, and 11.

9. When responding to the office action, Applicants' are advice to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.


A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao P. Le whose telephone number is 571-272-1785. The examiner can normally be reached on M-T (7-6).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thao P. Le
Examiner
Art Unit 2818
10/13/04